

## **INTRINSICALLY SAFE SENSOR SIGNAL PROCESSING CIRCUIT**

### **ABSTRACT OF THE DISCLOSURE**

5       An intrinsically safe sensor signal processing circuit permits lower  
cost installation and eliminates potential hazard. In the combination of a  
sensor which measures a physical value as a process variable in a  
hazardous environment and a safety barrier which is mounted in a non-  
hazardous environment, an intrinsically safe sensor signal processing  
circuit features a safety barrier for ease of mounting, wherein current  
10   limiting resistances are connected in series with a sensor and these  
resistances are also connected to either an output or an inverting input of  
operational amplifiers that are respectively used as a driver or a feeder of a  
sensor signal. Alternatively, the safety barrier can adopt blocking  
capacitors instead of current limiting resistors.